How to Extract from Image Services in ArcGIS for Desktop

This tutorial will show you how to extract a localized area from the LiDAR Image Services located at: http://lidar.geodata.md.gov/imap/rest/services, using ArcGIS.
First we will need to connect to the MD iMAP Maryland LiDAR Topography Server, for more information please follow this link to learn How to Access Maryland LiDAR Image Services.

There are multiple methods for extracting/exporting data from the LiDAR Image Services. Three methods we are going to show you in this tutorial include extracting by the data frame extent, extraction using selected features, and extracting by mask (Spatial Analyst).

Extract by Data Frame Extent

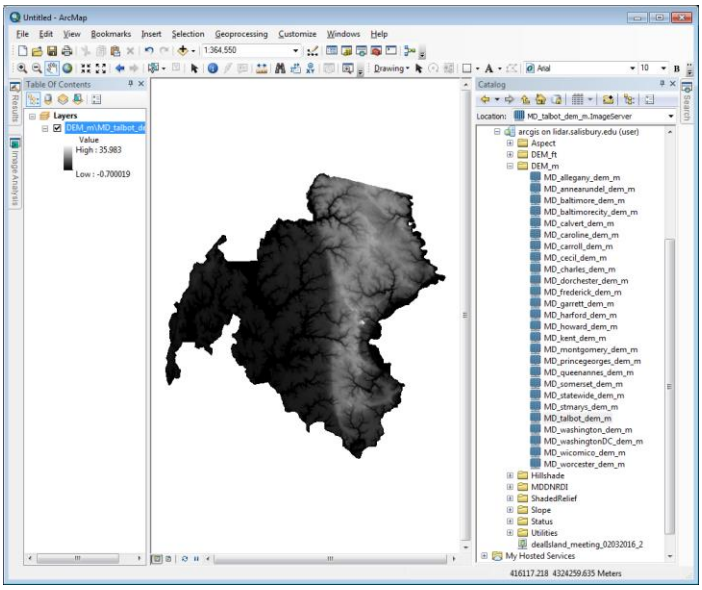
Extract by Selected Features

Extract by Mask (Spatial Analyst)

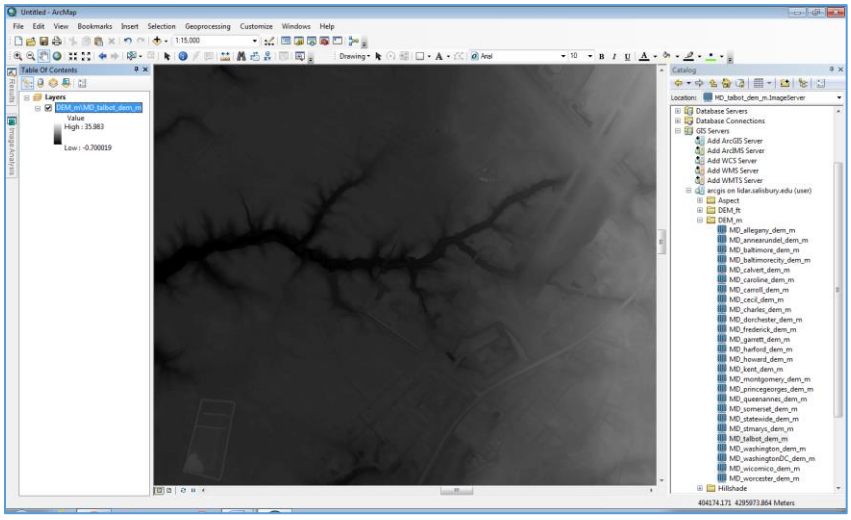
Extract by Data Frame Extent

1. Open ArcMap.

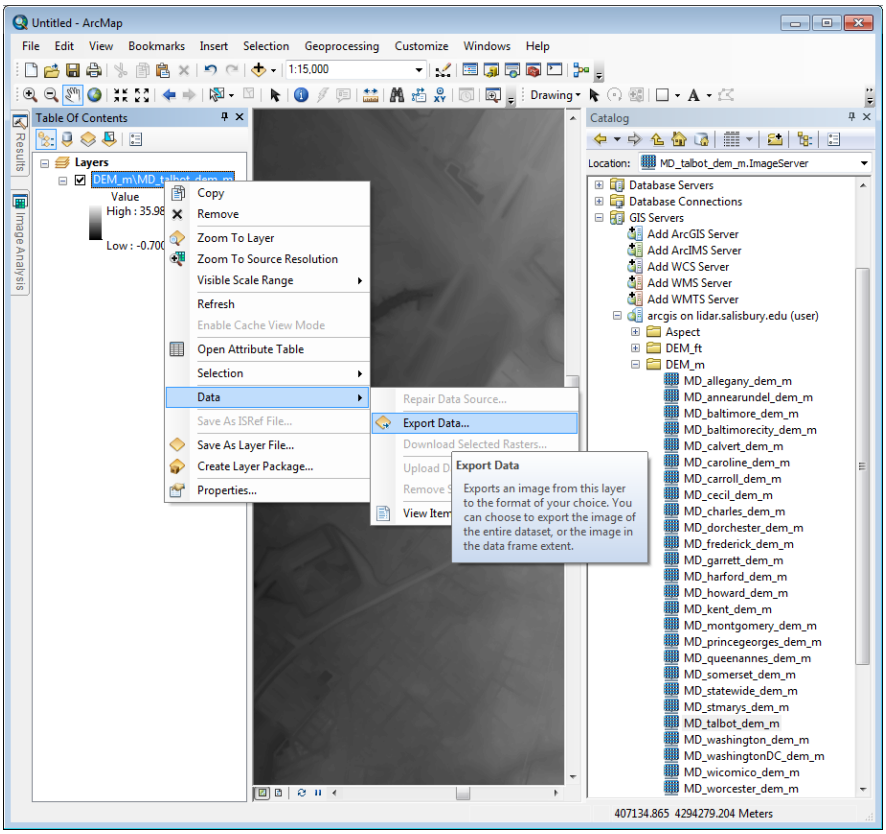
2. Add the desired Image Service to your map.
   For more information on accessing Maryland LiDAR image services, please read How to Access Maryland LiDAR Image Services.



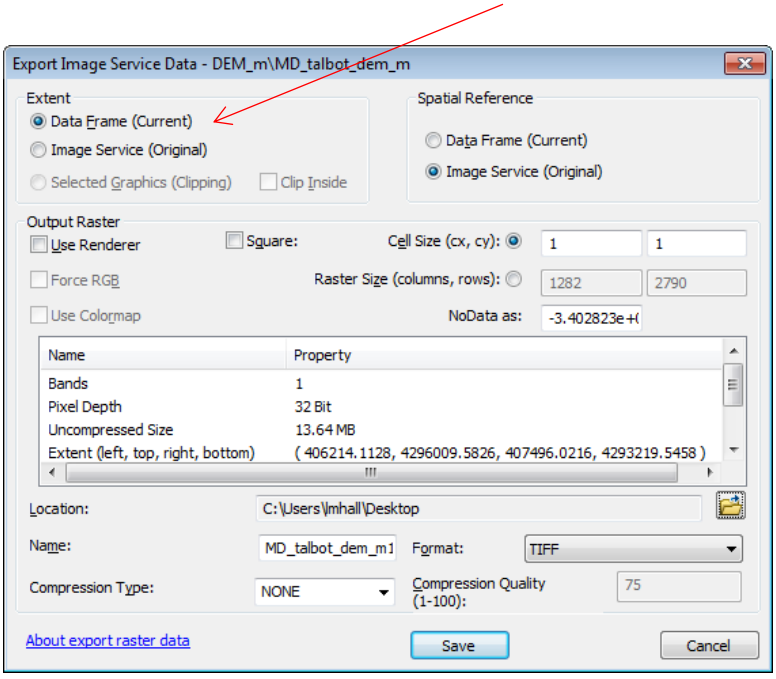
3. Zoom to your area of interest.
   Note: Exporting data from the Image Services has a size limitation set for the output raster. This limit has been set at 4100 rows and columns. For larger areas of interest, feel free to download a pre-defined countywide DEM from the MD iMAP LiDAR Download page.



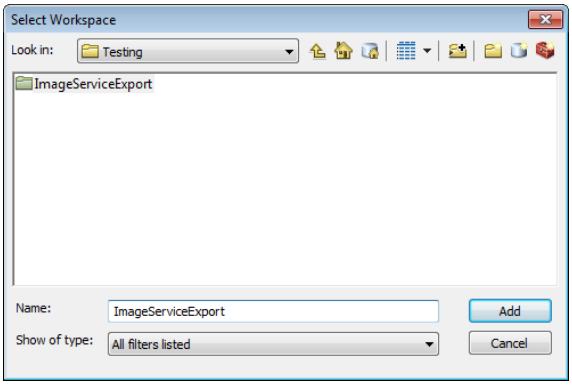
4. Right click the layer in your table of contents > Click “Data” > “Export Data…”



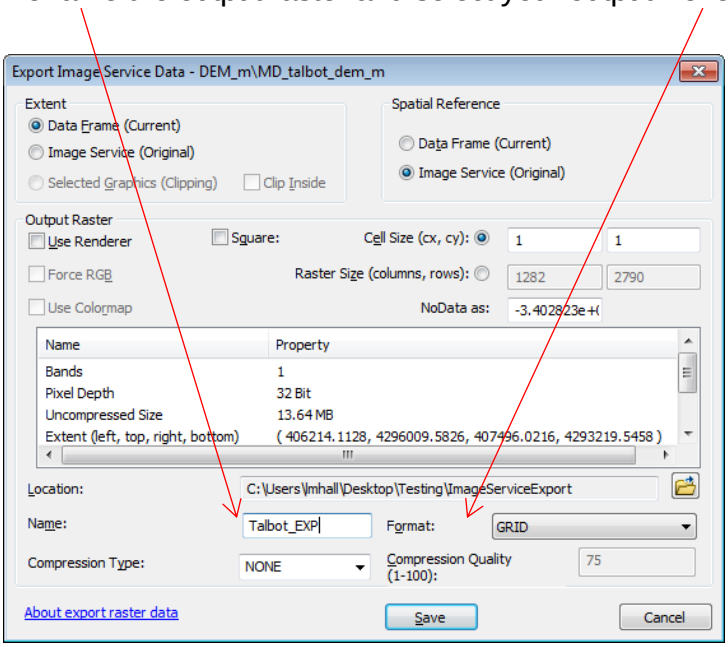
5. Check the option for extent: “Data Frame (Current)”



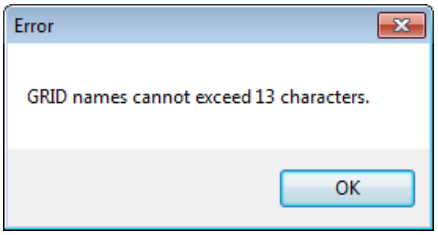
6. Click the [Browse] icon; navigate and select your output workspace [].
   Click [Add]



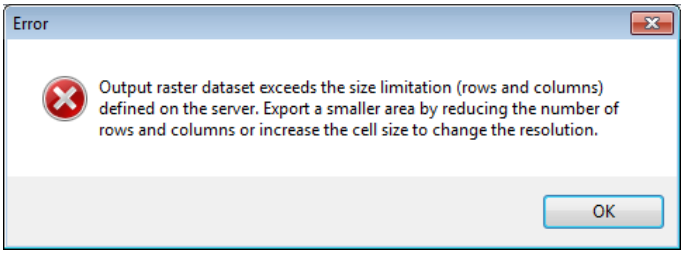
7. Rename the output raster and select your output file format from the dropdown window.



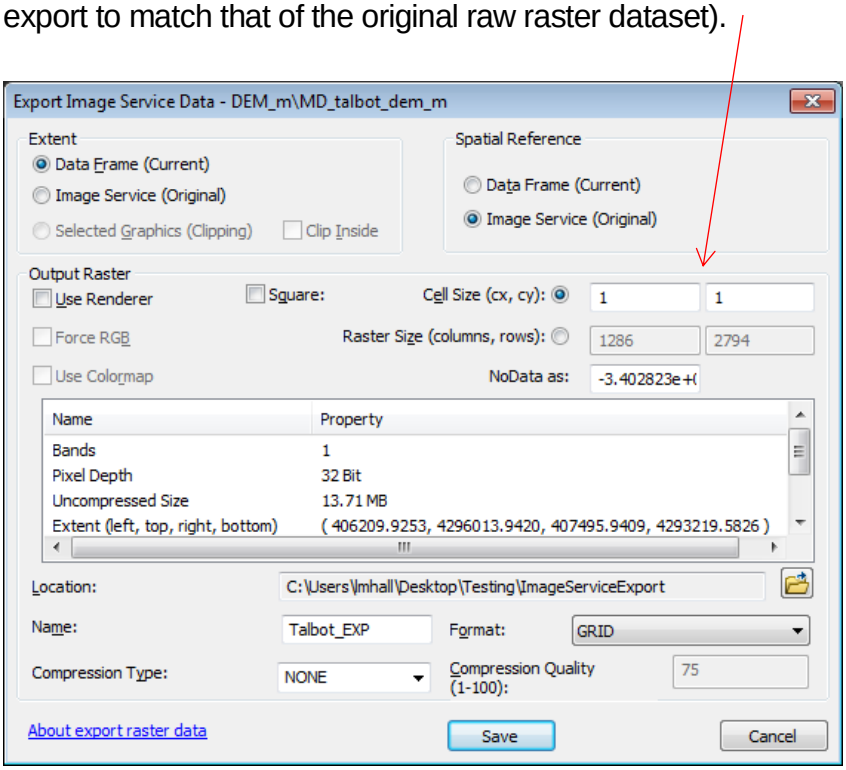
8. *Note: If selecting an output file type of [GRID], your output file name cannot exceed 13 characters and cannot start with a number.*



9. *If your area of interest is too large for the raster to export (4100 x 4100) you may be prompted with this error message:*



10. Leave the cell size as default (the export window will automatically populate the cell size of the export to match that of the original raw raster dataset).

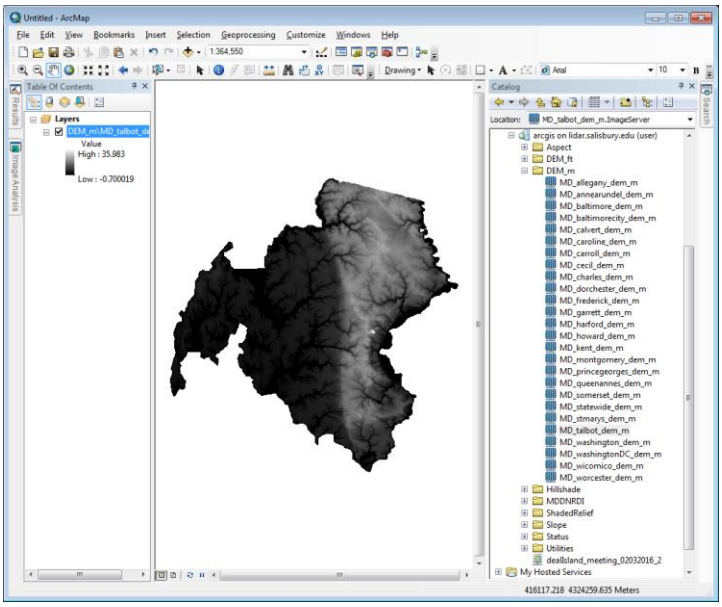


11. Click [Save] to run the export process and add the new layer to your map.

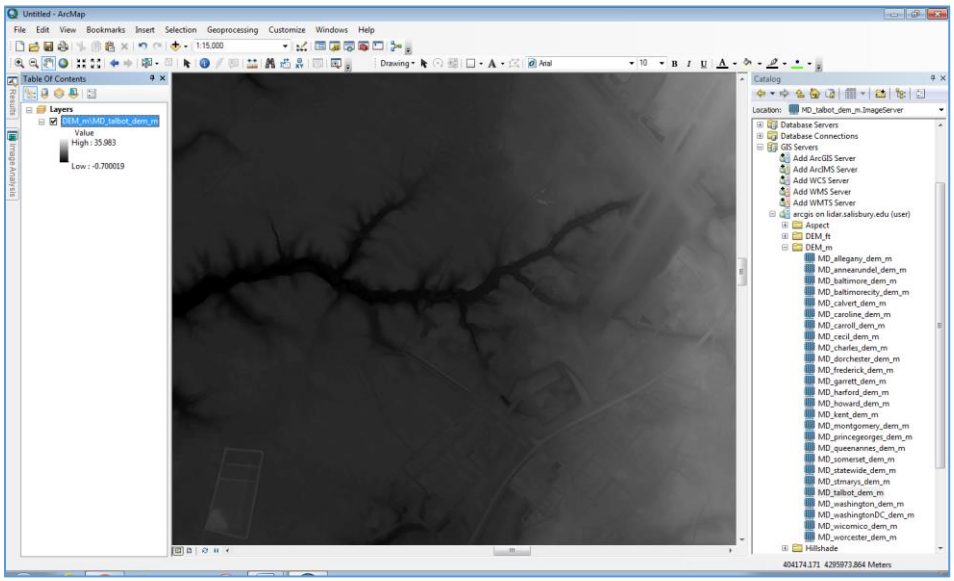
Extract by Selected Features

1. Open ArcMap.

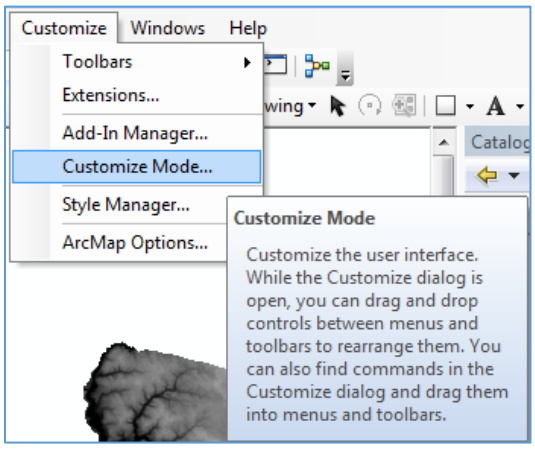
2. Add the desired Image Service to your map. (See “How to Access Image Services” [<<<Link])



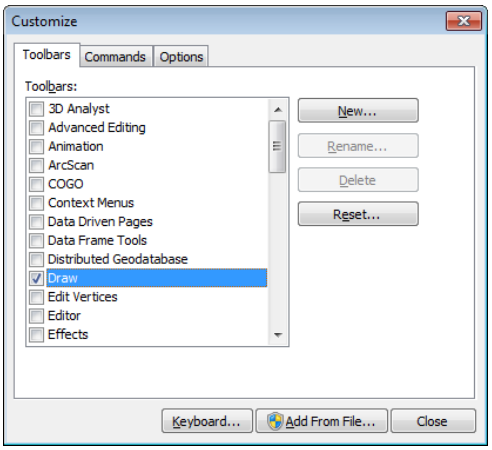
3. Zoom to your area of interest.
   Note: Exporting data from the Image Services has a size limitation set for the output raster. This limit has been set at 4100 rows and columns. For larger areas of interest, feel free to download a pre-defined countywide DEM from the MD iMAP LiDAR Download page.



4. Using the “Customize” dropdown menu bar, select “Customize Mode…”

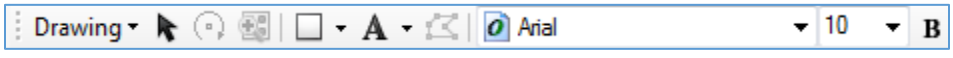


5. Under “Toolbars”, check the box to add the “Draw” toolbar to the map menu.

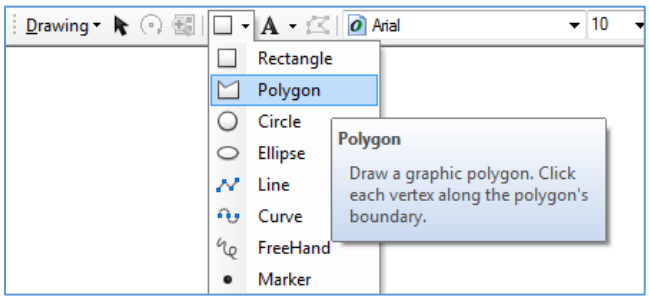


Click [Close]

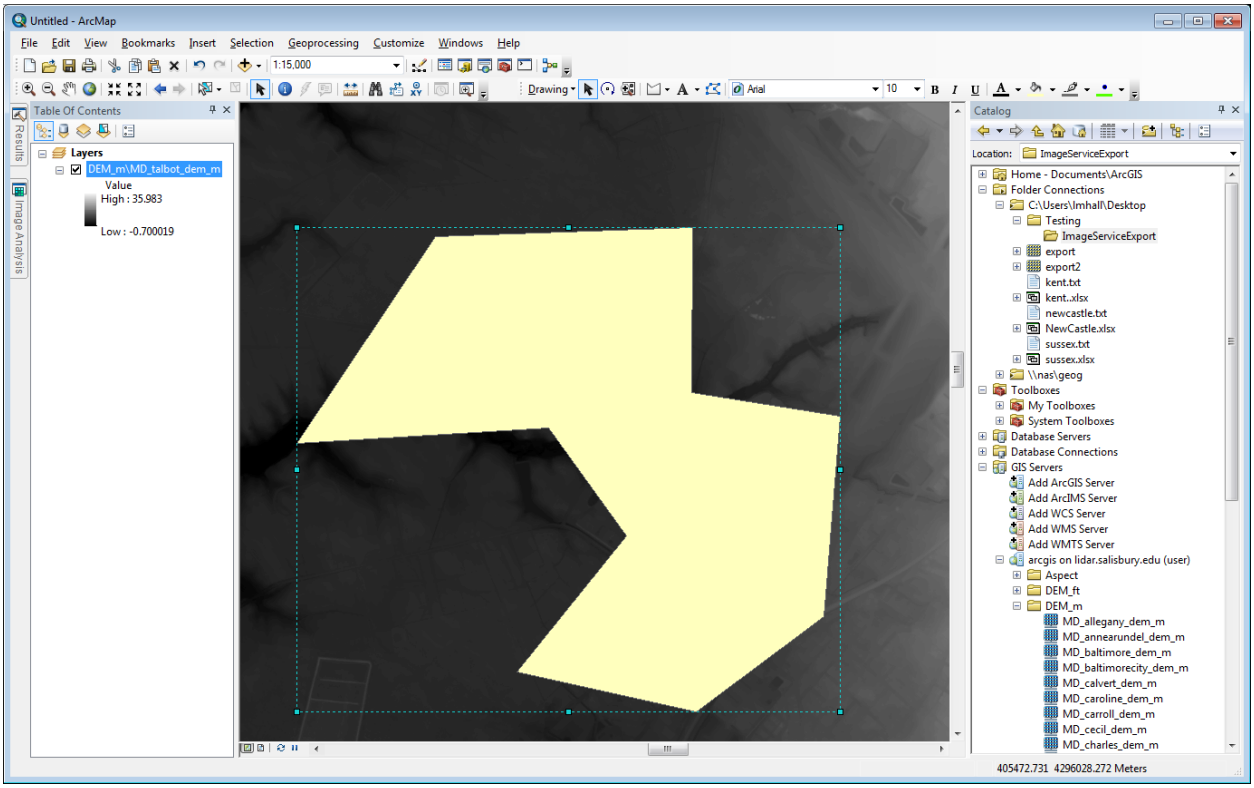
6. Locate the newly added “Draw” toolbar.



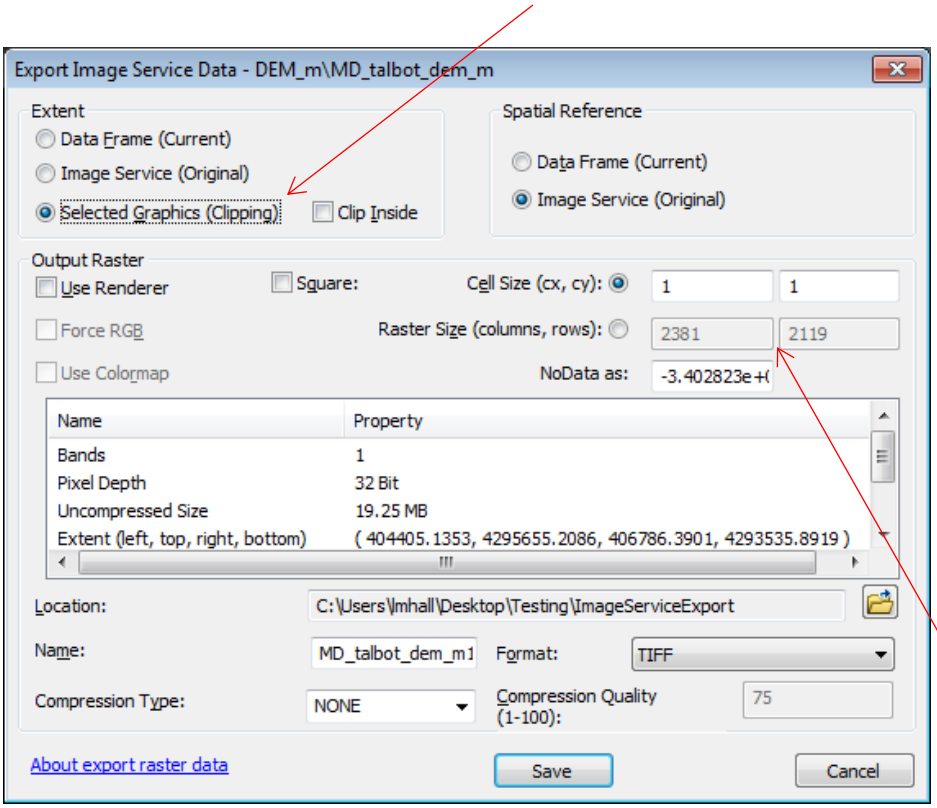
7. Using the dropdown, select the desired shape for defining your area of extraction.



8. With your drawing tool polygon selected, single click on your map to start the graphic; each consecutive click will add a vertex to your polygon; double click to complete your shape.
Note: If you use the rectangle for drawing your polygon, simply click and hold while dragging your cursor on the map view to draw your rectangle graphic.

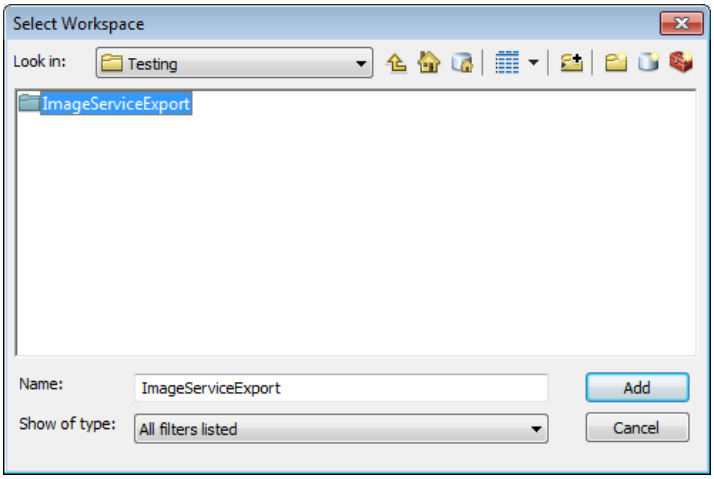


9. Right click your layer in the ArcMap Table of Contents > navigate to “Data” > “Export Data…” Check the option for extent: “Selected Graphics (Clipping)”.

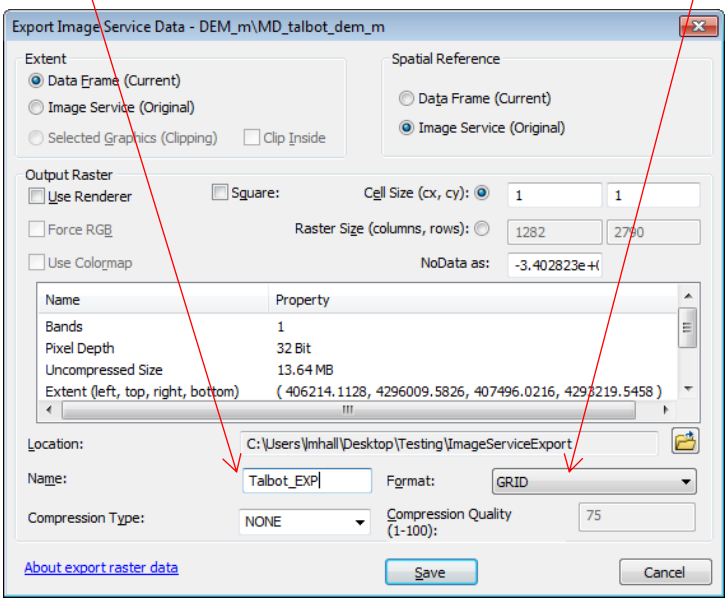


Note: The Image Services have been setup with an export limitation of 4100 x 4100. If your rows/columns exceed this range, your export will fail.

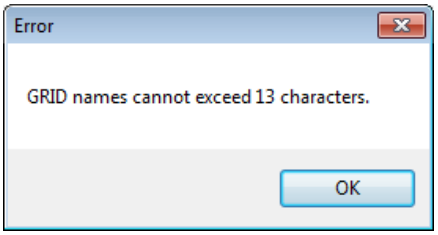
10. Click the [Browse] icon; navigate and select your output workspace []. Click [Add]



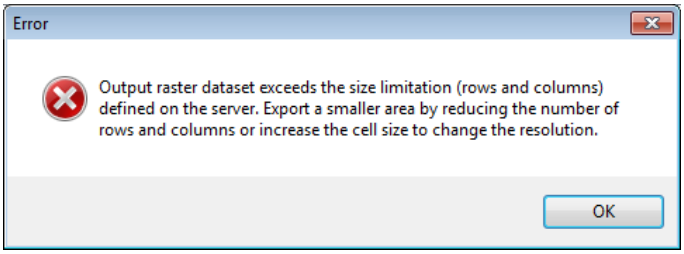
11. Rename the output raster and select your output file format from the dropdown window.



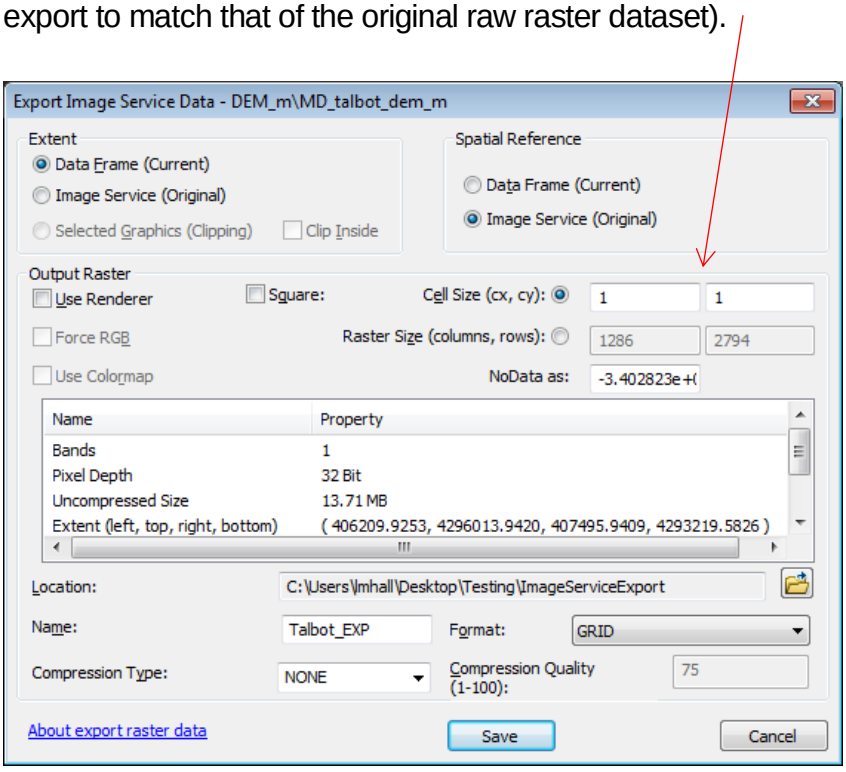
12. *Note: If selecting an output file type of [GRID], your output file name cannot exceed 13 characters and cannot start with a number.*



13. *If your area of interest is too large for the raster to export (4100 x 4100) you may be prompted with this error message:*



14. Leave the cell size as default (the export window will automatically populate the cell size of the export to match that of the original raw raster dataset).

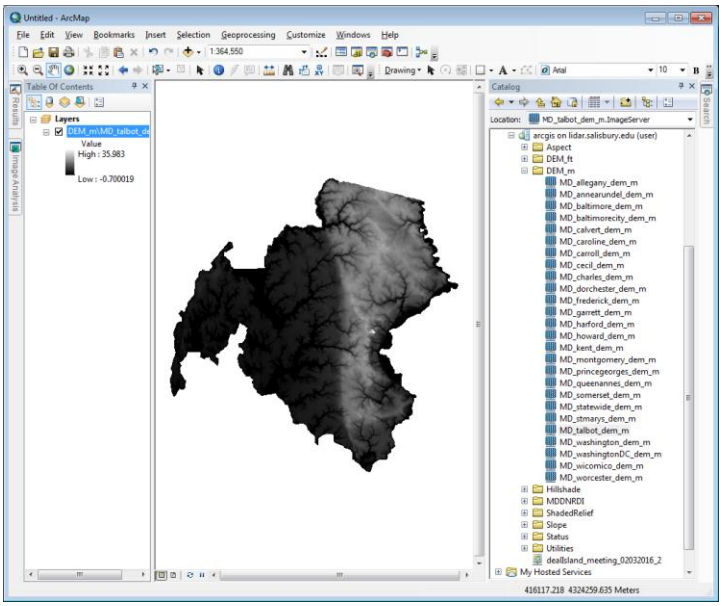


15. Click [Save] to run the export process and add the new layer to your map.

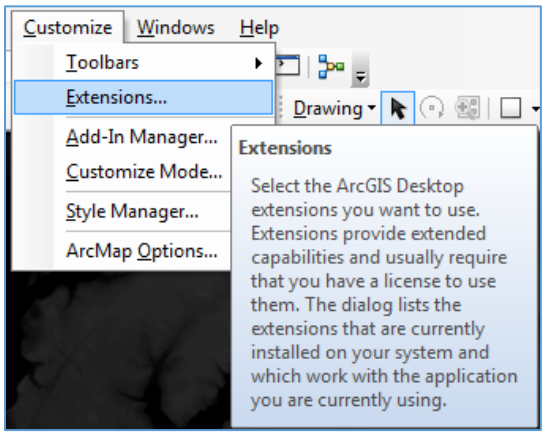
Extract by Mask – Spatial Analyst Extension is required for this method

1. Open ArcMap.

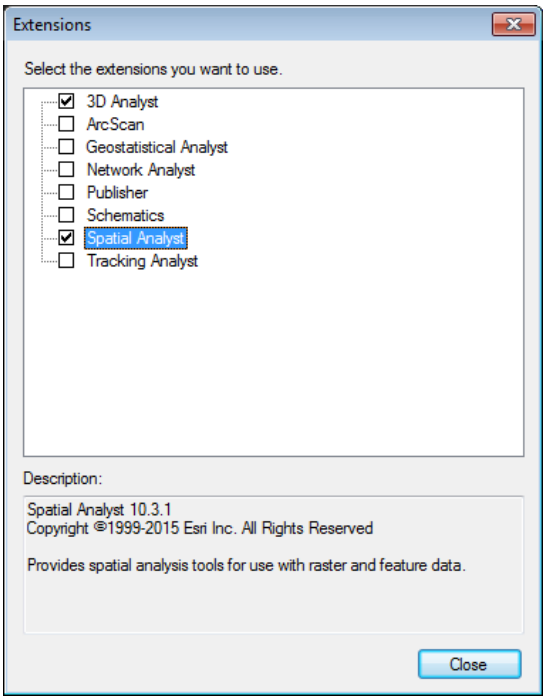
2. Add the desired Image Service to your map. (See “How to Access Image Services” [<<<Link])



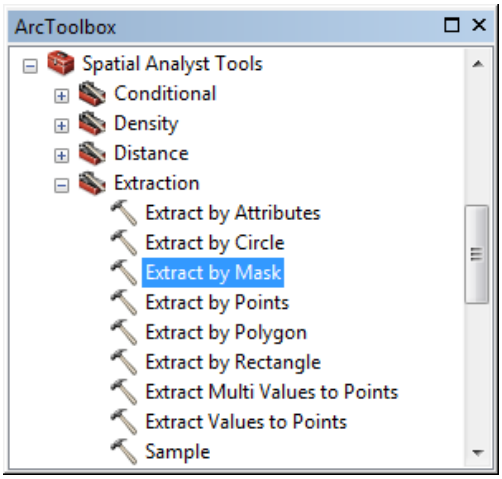
3. Using the “Customize” dropdown in the menu bar of ArcMap, open “Extensions”.



4. This tool [Extract by Mask] requires the Spatial Analyst extension. Check the box next to Spatial Analyst to active the extension.
   Click [Close]

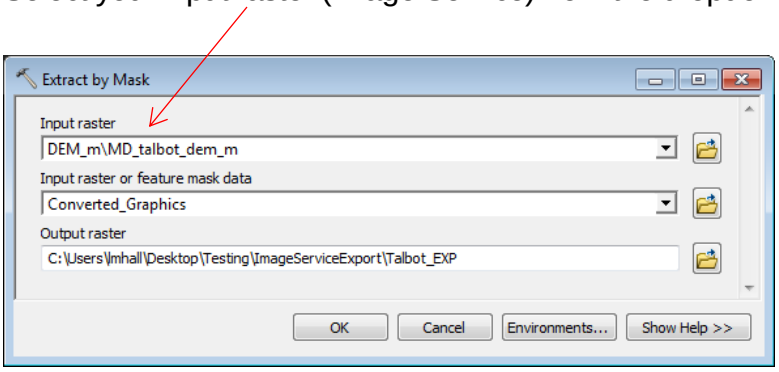


5. Use the [Search] icon [ ] to navigate geoprocessing tools. Search for "Extract by Mask" You can also locate "Extract by Mask" in the Spatial Analyst Tools toolbox within System Toolboxes in ArcMap.

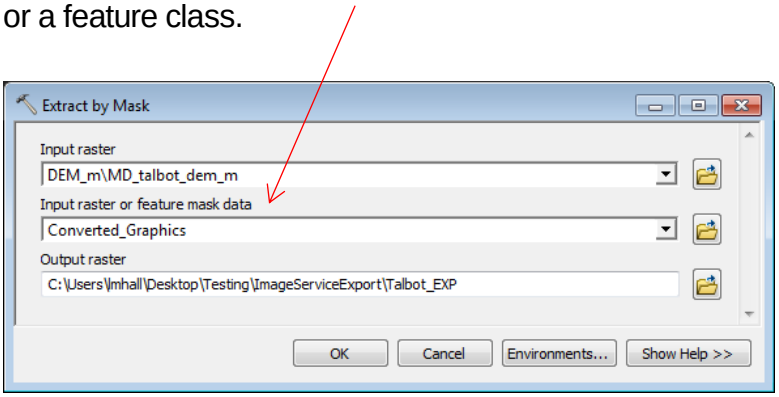


   Open the "Extract by Mask" tool.

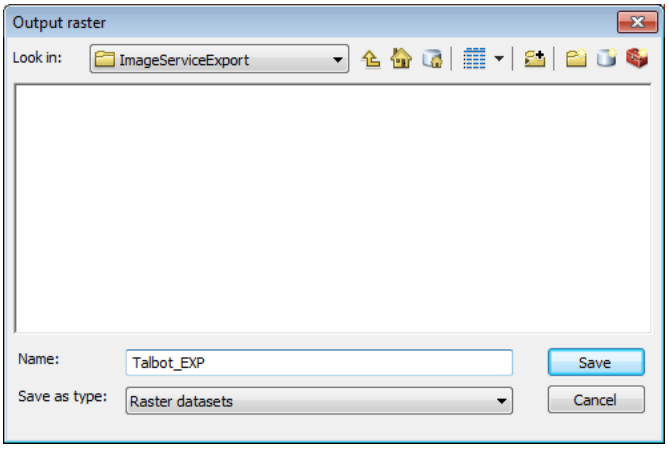
6. Select your input raster (Image Service) from the dropdown.



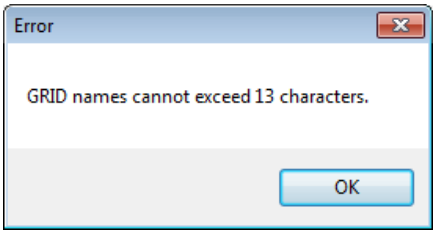
7. Select the input mask feature to define the areas to extract – This can be another raster dataset or a feature class.



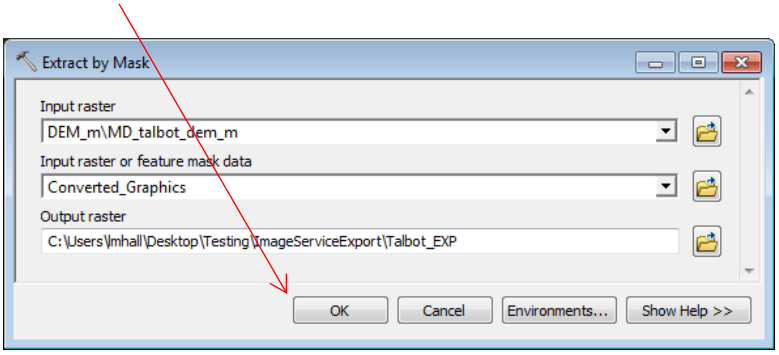
8. Click the [Browse] icon; navigate and select your output workspace []. Name your output raster appropriately.



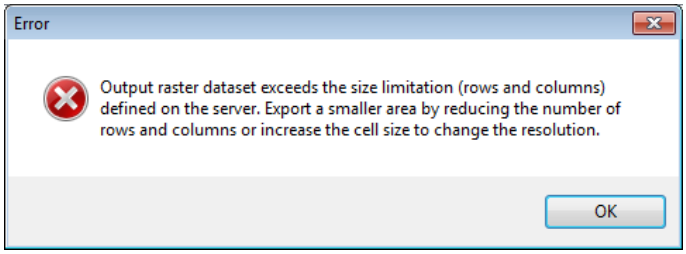
Notes: your output file name cannot exceed 13 characters and cannot start with a number.



9. Click [OK] to run the geoprocessing tool.



10. *Note: If your input feature mask is too large for the raster to export (4100 x 4100) you may be prompted with this error message:*



The Image Services have been setup with an export limitation of 4100 x 4100.

ADDITIONAL RESOURCES

For more information about Maryland LiDAR, please visit the Maryland LiDAR Overview page

For more information about additional training opportunities, please visit the MD iMAP Training Overview page, or contact Lisa Lowe, Senior GIS Analyst with the Maryland Department of Information Technology, Geographic Information Office at lisa.lowe@maryland.gov.

For additional MD iMAP datasets, please visit the GIS Data Catalog

For all other inquiries related to Maryland LiDAR, please contact the GIO Office at service.desk@maryland.gov.